No. 8300141

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'B47'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 26th *day of* October *in the year of our Lord one thousand nine hundred and* eighty-four.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)
Pioneer Hi-Bred International, Inc.

2. TEMPORARY DESIGNATION

3. VARIETY NAME
~~A890~~ B47

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
Plant Breeding Division
Department of Corn Breeding
PO Box 85, Johnston, IA 50131-0085

5. PHONE *(Include area code)*
515/270-3300

FOR OFFICIAL USE ONLY
PVPO NUMBER
8300141

6. GENUS AND SPECIES NAME
Zea mays

7. FAMILY NAME *(Botanical)*
Gramineae

FILING
DATE 5/26/83
TIME 2:30 ☐ A.M. ☒ P.M.

8. KIND NAME
Corn

9. DATE OF DETERMINATION
1975

FEES RECEIVED
AMOUNT FOR FILING $ 1,000
DATE 5/26/83
AMOUNT FOR CERTIFICATE $ 500.00
DATE 10/2/84

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Iowa

12. DATE OF INCORPORATION
May 6, 1926

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. Richard L. McConnell
Plant Breeding Division
Pioneer Hi-Bred International, Inc.
PO Box 85
Johnston, IA 50131-0085

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. ☒ Exhibit B, Novelty Statement

c. ☒ Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. ☒ Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☐ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
Pioneer Hi-Bred International, Inc.
By:

DATE

SIGNATURE OF APPLICANT
Richard L McConnell

DATE
May 19, 1983

FORM LMGS-470 (9-81) (Edition of 1-78 is obsolete)

C O R N 8300141

'~~AB70~~' 'B47'

NOTE: 'AB70' IS THE VARIETY 'B47' THROUGHOUT THIS APPLICATION- RJS 8/7/84

14A. Exhibit A. Origin and Breeding History

Pedigree: B37<3-XX#-SD105-#)F21323X11X

'B47'

Pioneer line '~~AB70~~', Zea mays L., a yellow dent corn inbred, was developed by Pioneer Hi-Bred International, Inc. from the F2 population of the single cross B37 x SD105. B37 is an inbred line developed by Iowa State University out of the Stiff Stalk Synthetic. SD105 is an early inbred line developed by South Dakota State University. The pedigree method of breeding was used in the development of this inbred as per the following.

F2 seed was obtained in the field at Mankato, Minnesota, during the summer of 1964 by selfing the F1 hybrid B37 x SD105. The F2 population was grown at Mankato in 1965, and the earliest plants were backcrossed to B37. Six ears were kept and these "pseudo backcrosses" were grown at Homestead, Florida, during the winter of 1965-66. Plants from these backcrosses were sib-pollinated. In 1966, the population was grown at Mankato, Minnesota, in the northern leaf blight nursery, and the earliest plants were again backcrossed to B37. During the summer of 1967, seven backcross ears were grown ear to row and self-pollinated. These were sibbed in Homestead during the winter of 1967-68, and a large population of the sibbed generation was grown in the northern leaf blight nursery at Mankato in 1968. 101 ears were saved from this population. In 1969, the F2 population from the backcross-sib breeding sequence was grown in the northern leaf blight nursery at Mankato, and three self-pollinated ears from ear-row number 62 (F2 = 62) were saved. The F3 population was grown in the northern leaf blight nursery at Mankato in 1970, and four self-pollinated ears were saved from the F3 ear-row number 1. During the winter of 1970-71, the F4 family was grown ear to row at Homestead, and five self-pollinated ears were selected from ear-row number 3. From 1971 through 1974, the F5 through F8 generations were grown at Mankato and the best ear-rows saved from each succeeding generation. In 1972, an F6 topcross was made to a double-cross tester for evaluation of the line's general combining ability. This testcross was evaluated at Mankato during the summers of 1973 and 1974. In 1974, six additional testcrosses were made and these hybrids were evaluated in 1975. Based on these yield trials and on inbred per se performance, it was determined that AB70 possessed some superior attributes relative to other inbreds evaluated at Mankato during 1974 and 1975. Thus, selfed seed was saved from the F9 ear-row number 1, and in December 1975 the line was named 'AB70'. Since the time the line was named, additional hybrid combinations have been evaluated, and subsequent generations of the line have been grown and hand-pollinated with observations made for uniformity. An outline of the breeding profile of the inbred is attached.

14A. Exhibit A. Origin and Breeding History (continued)

'B47' ~~AB70~~ has shown uniformity and stability for all traits as described in Exhibit C (form LPGS-470-28) - "Objective Description of Variety." It has been self-pollinated and ear-rowed a sufficient number of generations with careful attention paid to uniformity of plant type to assure genetic homozygosity and phenotypic stability. AB70 has been increased by the Parent Corn Department, Pioneer's foundation seed group, each year since 1974. The line has been increased both by hand and in isolated fields with continued observation for uniformity.

No variant traits have been observed or are expected in 'B47' ~~AB70~~ when it is grown in its area of adaptation. Plant size and maturity varies in the Florida winter nursery. Plants are sometimes stunted and of a later maturity than they are in the Northern Corn Belt.

Pioneer Hi-Bred International, Inc., Des Moines, Iowa, is the employer of the plant breeders involved in the selection and development of AB70. Pioneer Hi-Bred International, Inc. has the sole rights and ownership of ~~AB70~~ 'B47'.

NOTE = 'AB70' IS THE VARIETY 'B47'. RJS.

8300141

'B47' PVP

14A. Exhibit A. Origin and Breeding History of Corn Inbred Line '~~AB70~~'

Season/Year	Inbreeding Level	Nursery Location	Pedigree	Number of Ears Saved
Summer 1964	F1	Mankato, MN	B37/SD105	Bulk
Summer 1965	F2	Mankato, MN	B37/SD105)X-BC(B37)[1]	6
Winter 1965-66	BC1	Homestead, FL	B37<2-XX-SD105-A,B[2]	Bulk
Summer 1966	BC1-Sib	Mankato, MN	B37<2-XX-SD105-#[1]	7
Summer 1967	BC2	Mankato, MN	B37<3-XX#-SD105-5[3]	4
Winter 1967-68	BC2-F2	Homestead, FL	B37<3-XX#-SD105-5A,B[2]	Bulk
Summer 1968	BC2-Sib	Mankato, MN	B37<3-XX#-SD105-#[3]	101
Summer 1969	F2	Mankato, MN	B37<3-XX#-SD105-#)F2	3
Summer 1970	F3	Mankato, MN	B37<3-XX#-SD105-#)F21	4
Winter 1970-71	F4	Homestead, FL	B37<3-XX#-SD105-#)F213	5
Summer 1971	F5	Mankato, MN	B37<3-XX#-SD105-#)F2132	4
Summer 1972	F6*	Mankato, MN	B37<3-XX#-SD105-#)F21323	Bulk
Summer 1973	F7	Mankato, MN	B37<3-XX#-SD105-#)F21323X	3
Summer 1974	F8**	Mankato, MN	B37<3-XX#-SD105-#)F21323X1	1
Summer 1975	F9	Mankato, MN	B37<3-XX#-SD105-#)F21323X11	1
December 1975	Line named AB70.			
1975-1982	Line increased by hand-pollination and in isolated fields with observations made for uniformity.			

---

[1]Earliest plants backcrossed to B37.

[2]Sibbed.

[3]Selfed.

*Testcross made for yield testing in 1973 and 1974.

**More hybrid combinations made involving ~~AB70~~ 'B47' for testing in 1975.

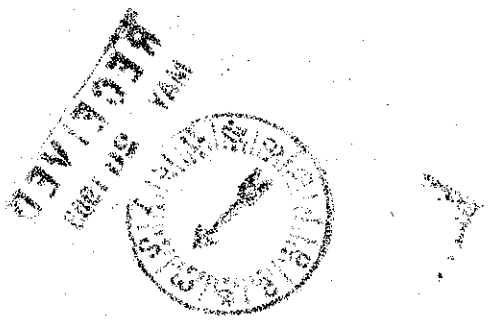
8300141

14B. Exhibit B. Novelty Statement

'B47' RJS

'~~AB70~~' is most similar to the public inbred line B37. Certain similarities are expected since half the parentage of AB70 is B37. AB70 differs from B37 in that it reaches 50% pollen shed and 50% silk, 60 and 120 heat units, respectively, earlier than B37. AB70's silk color is red whereas the silk color of B37 is green. ~~AB70~~ has pink colored cobs; B37 has reddish-orange colored cobs.

'B47'



FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Corn)

OBJECTIVE DESCRIPTION OF VARIETY
CORN *(ZEA MAYS)*

NAME OF APPLICANT(S)
Pioneer Hi-Bred International, Inc.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
Plant Breeding Division
Department of Corn Breeding
P. O. Box 85
Johnston, IA 50131-0085

FOR OFFICIAL USE ONLY
PVPO NUMBER 8300141
VARIETY NAME OR TEMPORARY DESIGNATION ~~AB70~~ B47

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. 0 8 9 or 0 9) when number is either 99 or less or 9 or less.

1. TYPE:

[2] 1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

[2] 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "comments" (pg. 3) state how heat units were calculated)

[6][5]	DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	[1][4][1][8] HEAT UNITS
[ ][ ]	DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	[ ][ ][ ][ ] HEAT UNITS
[ ][ ]	DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	[ ][ ][ ][ ] HEAT UNITS

4. PLANT:

[2][2][5] CM. HEIGHT (To tassel tip)

[0][8][5] CM. EAR HEIGHT (To base of top ear)

[0][7] CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

[1] 1 = NONE 2 = 1–2 3 = 2–3 4 = > 3

Number of Ears Per Stalk:

[1] 1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

[1] 1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

[3] Observed olive green
1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

[2] 1 = < 30° 2 = 30–60° 3 = > 60°

Sheath Pubscence:

[1] 1 = LIGHT (W22) 2 = MEDIUM (WF9)
3 = HEAVY (OH26)

Marginal Waves:

[1] 1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

[1] 1 = ABSENT (OH51) 2 = FEW (OH56A)
3 = MANY (PA11)

Width:

[1][1] CM. WIDEST POINT OF EAR NODE LEAF

Length:

[0][7][2] CM. EAR NODE LEAF

[2][1] NUMBER OF LEAVES PER MATURE PLANT

6

6. TASSEL:

[0][3] NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

[2] 1 = < 30° 2 = 30–40° 3 = > 45°

Penduncle Length:

[2][0] CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

[1] 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY(KY21)

(Observed purplish red, secondary yellow)

[3] **Anther Color:** 1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN

[5] **Glume Color:** 6 = OTHER (Specify) _____

(Observed pale olive green)

Pollen Restoration for Cytoplasms (0 = Not Tested, 1 = Partial, 2 = Good)

[0] "T" [0] "S" [0] "C" [ ] OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

[1][5] CM LENGTH [4][1] MM. MID-POINT DIAMETER [1][2][1] GM. WEIGHT

Kernel Rows:

[2] 1 = INDISTINCT 2 = DISTINCT [1][4] NUMBER

[1] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

[4] 1 = GREEN 2 = PINK 3 = SALMON 4 = RED

Husk Color:

(Observed pale yellow green)

[2] FRESH 1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK

[6] DRY 4 = RED 5 = PURPLE 6 = BUFF

(Observed pale brownish pink)

Husk Extention: (Harvest Stage)

[1] 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear) 3 = LONG (8–10CM Beyond Ear Tip) 4 = VERY LONG (> 10 CM)

Husk Leaf:

[3] 1 = SHORT (< 8 CM) 2 = MEDIUM (8–15 CM) 3 = LONG (> 15 CM)

Shank:

[1][1] CM LONG [7] NO. OF INTERNODES

Position at Dry Husk Stage:

[1] 1 = UPRIGHT 2 = HORIZONTAL 3 = PENDENT

Taper:

[2] 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

[ ] 1 = SLOW 2 = AVERAGE 3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

[1][1] MM LONG [0][9] MM. WIDE [0][4] MM. THICK

Shape Grade (% Rounds)

[2] 1 = < 20 2 = 20–40 3 = 40–60 4 = 60–80 5 = > 80

7

8. KERNEL (Dried) :

[1] Observed translucent white

Pericarp Color: 1 = COLORLESS 2 = RED-WHITE CROWN 3 = TAN 4 = BRONZE
5 = BROWN 6 = LIGHT RED 7 = CHERRY RED
8 = VARIEGATED (Describe) _____

[1] **Aleurone Color:** 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

[1] Observed opaque white
1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED
7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

[4] Observed orange
Endosperm Color: 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

Endosperm Type:

[3] 1 = SWEET (su1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARCH
5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

[2][7] GM. WEIGHT /100 SEEDS (Unsized Sample)

9. COB:

[2][3] MM. DIAMETER AT MID-POINT

Strength:

[2] 1 = WEAK 2 = STRONG

Color:

[2] 1 = WHITE 2 = PINK 3 = RED 4 = BROWN
5 = VARIEGATED 6 OTHER (Specify) _____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = ~~Resistant~~):

[2]	STALK ROT (Diplodia)	[2] Tolerant	STALK ROT (Fusarium)	[2]	STALK ROT (Gibberella)
[2]	NORTHERN LEAF BLIGHT	[1]	SOUTHERN LEAF BLIGHT	[2]	SMUT (Head smut)
[1]	SOUTHERN RUST	[1]	CORN SMUT (Common)	[1]	BACTERIAL WILT (Stewart's)
[0]	BACTERIAL LEAF BLIGHT	[1]	MAIZE DWARF MOSAIC	[0]	STUNT
[ ]	OTHER (Specify)				

11. INSECT RESISTANCT (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[1]	CORNBORER (European)	[1]	EARWORM	[0]	SAPBEETLE	[0]	APHID
[0]	ROOTWORM (Northern)	[1]	ROOTWORM (Western)				
[0]	ROOTWORM (Southern)	[ ]	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	A632	Kernel Type	B37T
Plant Type	B37T	Quality (Edible)	
Ear Type	B37T	Usage	A632 & AB53

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.
Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)
Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. 1935.
The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.
Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.
Butler, D.R. 1954 — A System for the Classification of Corn Inbred Lines — PhD. Thesis, Ohio State University.

COMMENTS: Heat units are accumulated from daily temperatures as follows:
HI = Maximum air temperature in Fahrenheit, but not greater than 86.
LO = Minimum air temperature in Fahrenheit, but not less than 50.
Heat Units = (HI + LO)/2 - 50, but not less than 0.

8

14D. Exhibit D. Additional Description of ~~AB70~~ 'B47' R/S.

'~~AB70~~' is a yellow dent inbred line of corn, Zea mays L.

As an inbred per se, ~~AB70~~ 'B47' is similar to the public inbred line B37 in a number of plant and seed characteristics. Certain similarities are expected since half the parentage of AB70 is B37. Both lines are very similar in plant stature. They are the same plant height, leaf color (dark green), glume color (green), and anther color (red). There are, however, a number of distinguishable differences between the two inbreds, some of which have already been stated in Exhibit B. They also differ in ear height and tassel size. AB70 has an ear height of 85 centimeters while B37 has an ear height of 95 centimeters. AB70 has, on the average, three tassel branches while B37 has six.

~~AB70~~ 'B47' is an early version of B37 that flowers at approximately the same time as A632. Thus, its maturity and use in hybrids is similar to public inbred line A632 and to Pioneer inbred line AB53. AB70 is a high yielding inbred line per se and produces well filled inbred ears under most environmental conditions. In F1 hybrid combinations, it yields well, but a distinguishing characteristic of these hybrids is that the tips of the ears are usually not completely filled.

~~AB70~~ 'B47' has average or above average tolerance to Northern leaf blight (Helminthosporium turcicum), Southern leaf blight (Helminthosporium maydis), Helminthosporium leaf spot (Helminthosporium carbonum), eye spot (Kabatiella zeae), common rust (Puccinia sorghi), Stewart's bacterial wilt (Erwinia stewartii), and head smut (Sphacelotheca reiliana). It has below average tolerance to gray leaf spot (Cercospora zeae), anthracnose (Colletotrichum graminicola), Southern rust (Puccinia polysora), Goss's bacterial wilt (Corynebacterium nebraskense), sorghum downy mildew (Sclerospora sorghi), and to virus diseases.

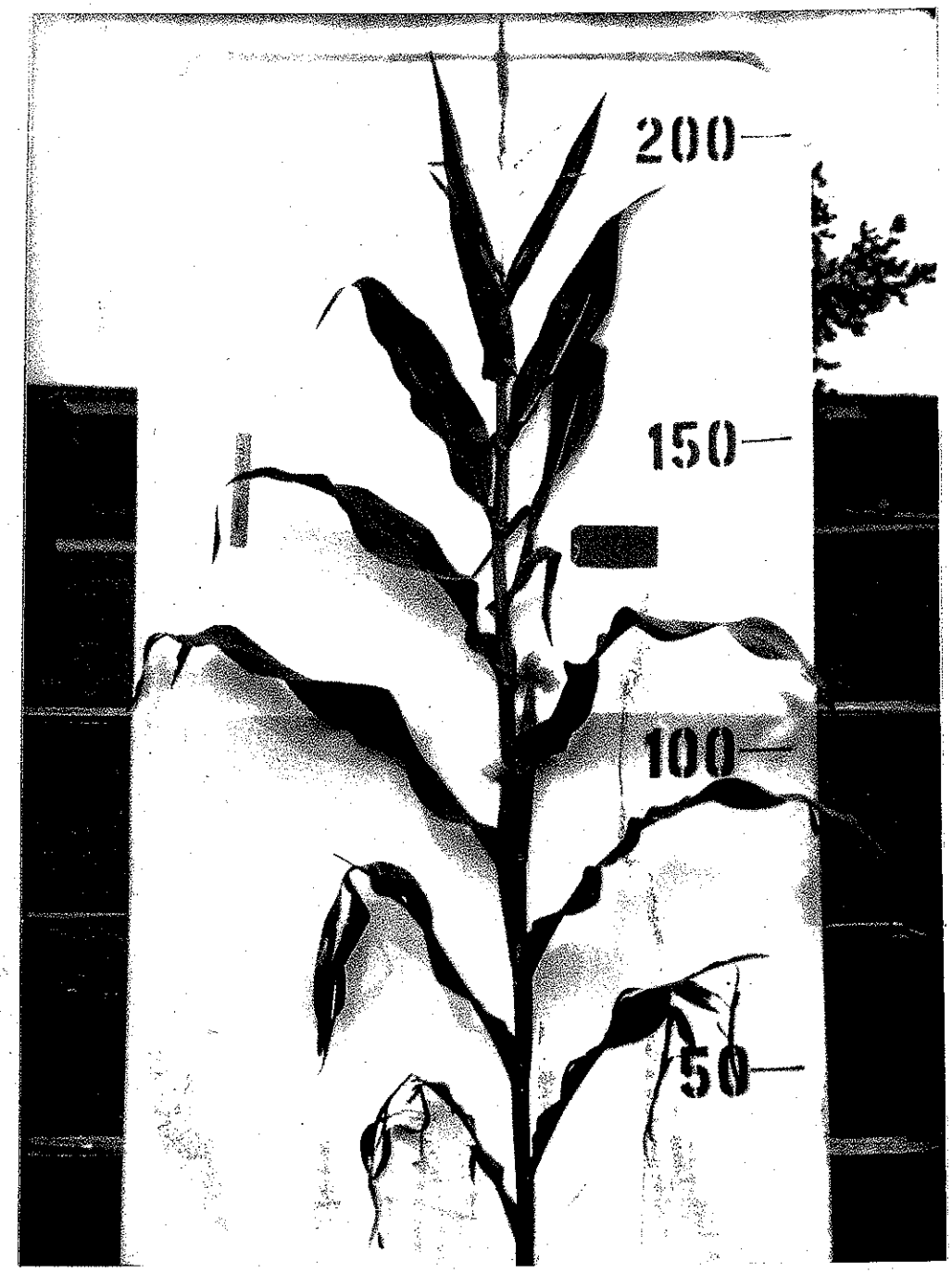
~~AB70~~ 'B47' is an excellent inbred female in seed production fields. It has high grain yields, good kernel size outs, and above average warm and cold test germination percentages. Because of a small tassel, it is below average as a male parent. In hybrid combinations, AB70 contributes high yield with good harvestability. It has average to above average stalk quality and above average tolerance to drought stress. Hybrids involving AB70 have good germination and excellent growth after emergence. These hybrids have average test weight; grain is of medium texture and good quality. These hybrids are average in plant height but ear placement is lower than for other hybrids of the same maturity. AB70's hybrids are below average for root quality and late-season plant health. For comparative purposes, data are attached for AB70 and AB53 where both lines were crossed to the same inbred tester lines and the hybrids evaluated in the same locations.

14D Exhibit D. Comparison of ~~AB53~~ B09 and ~~AB70~~ B47 crossed to same tester lines and the hybrids evaluated at the same locations. All values are expressed as percent of the test mean except yield, which is expressed as bushels/acre adjusted to 15.5% grain moisture (1981 Data).

	Inbred	Yield	Percent Yield	Moisture	GDU Shed	Stalk Lodging	Root Lodging	Ears/Plot	Stay Green	Test Weight	Grain Quality	Cob Scores	Seedling Vigor	Plant Height	Ear Height			
No. of Reps.		66	66	66	19	66	25	26	38	63	45	41	50	43	43			
	B09 ~~AB53~~	141	99	101	101	100	96	100	103	100	96	109	97	98	103			
	B47 ~~AB70~~	142	99	98	100	101	105	100	104	100	97	108	111	99	97			
Diff.		1	0	3	1	1	9	0	1	0	1	1	14	1	6			

14D. Exhibit D. Additional Description of ~~AB70~~ B47 RJS (continued)

a. Whole plant

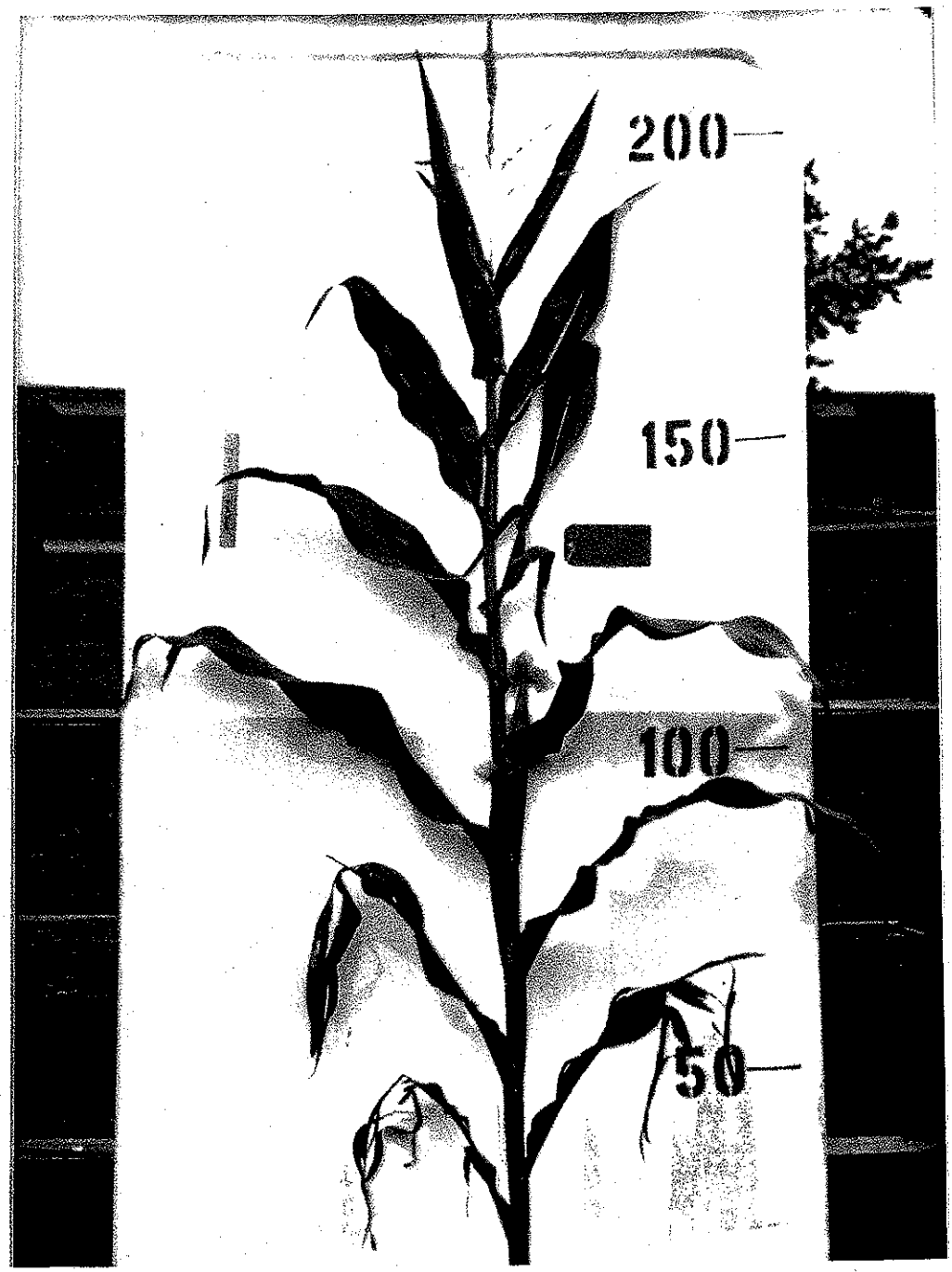


8300141

B47

14D. Exhibit D. Additional Description of ~~AB70~~ (continued)

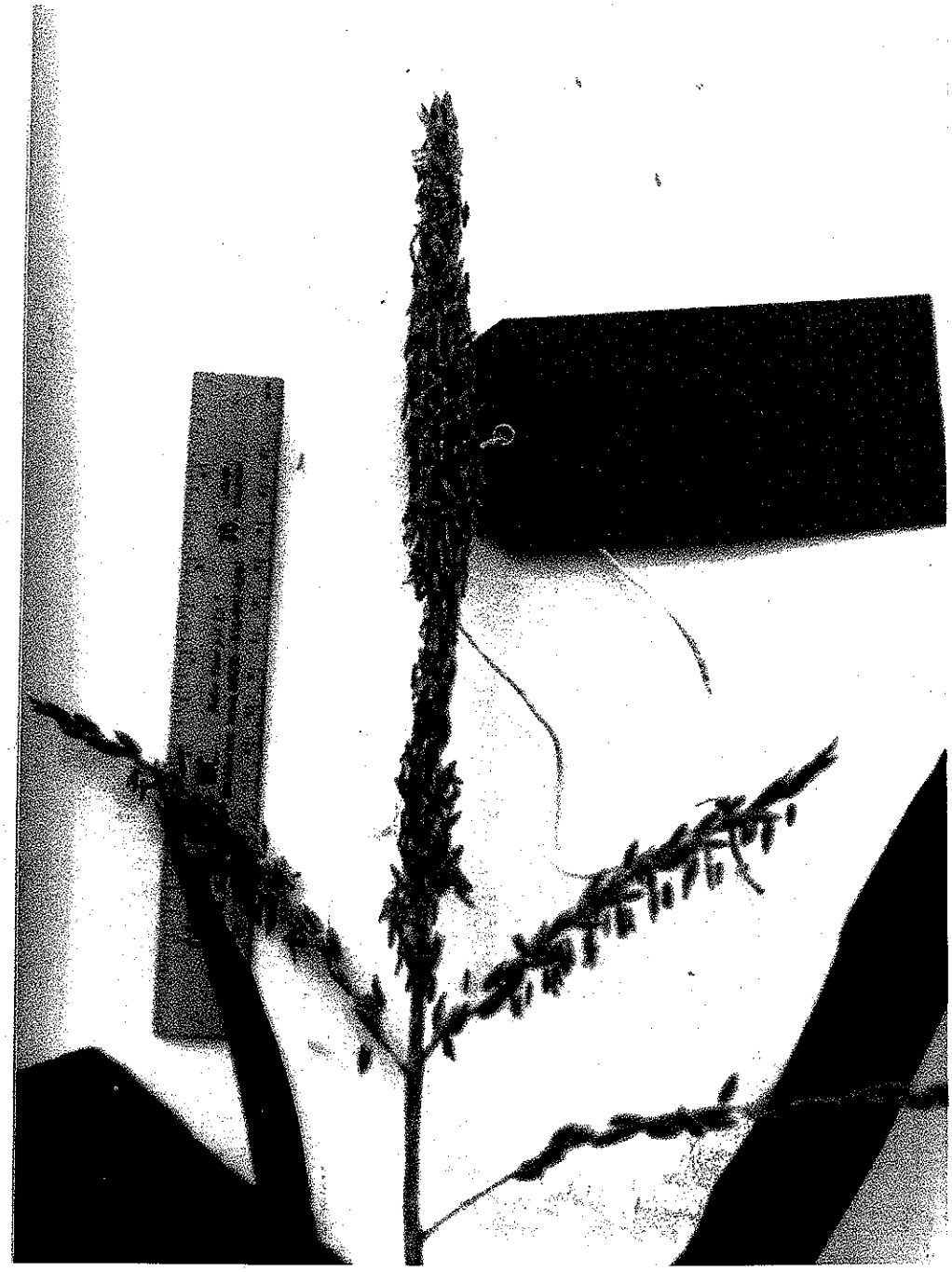
a. Whole plant



'347' 85

14D. Exhibit D. Additional Description of ~~AB70~~ (continued)

b. Tassel



14D. Exhibit D. Additional Description of ~~AB70~~ B47 DJS (continued)

c. Ear